REMARKS

I. Introduction

With the addition of new claims 32 to 28, claims 16, and 19 to 38 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 16, and 19 to 21 under 35 U.S.C. § 103(a)

Claims 16, and 19 to 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Romann et al. (U.S. Patent No. 5,335,864), and Pontoppidan (International Patent Publication No. WO 99/31382). It is respectfully submitted that the combination of Romann et al. and Pontoppidan does not render unpatentable the present claims for at least the following reasons.

In order for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), the prior art must teach or suggest each element of the claim. See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990). In addition, as clearly indicated by the Supreme Court, it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. See KSR Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, the Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. M.P.E.P. §2143.

Claim 16 recites a fuel injector including, *inter alia*, a downstream valve end including an outlet component and a fuel outlet, in which the fuel outlet includes at least one discharge orifice of the outlet component, and in which *the discharge orifice of the outlet component is inclined at an angle relative to the longitudinal axis of the valve*. Claim 16 also recites that the discharge orifice ends in an outlet area configured as a convexly-arched spray-discharge region that extends beyond the outlet component in a downstream direction, the outlet area being a most downstream portion of the downstream valve end and *the outlet area including a spray-discharge region thickness greater than a peripheral thickness of the outlet component surrounding the outlet area*. Support for the amendments may be found in the Specification, e.g., at Figure 5.

In contrast, Romann et al. does not disclose, or even suggest, the feature that *a discharge orifice of an outlet component is inclined at an angle relative to a longitudinal axis of a valve*, as provided for in the context of claim 16. Instead, Romann et al. merely indicates

a metallic perforated disc 22 having spray orifices 37, in which the disc 22 is 0.1mm thick. Col. 2, lines 15 to 18; and Figure. Moreover, Romann et al. states that "a perforated disc thinner than the known perforated discs can be used" to avoid the disadvantage of sub-optimal fuel treatment by discs of relatively large thickness. Col. 1, lines 13 to 26. Thus, Romann et al. merely describes using thin perforated discs of 0.1mm thickness. Therefore, Romann et al. does not disclose, or even suggest, the feature that *a discharge orifice of an outlet component is inclined at an angle relative to a longitudinal axis of a valve.*

In addition, Romann et al. does not disclose, or even suggest, the feature of *an outlet area including a spray-discharge region thickness greater than a peripheral thickness of an outlet component surrounding an outlet area.* Instead, Romann et al. merely indicates a perforated disc having a thickness of 0.1mm. Col. 2, lines 17 to 18; and Figure. Accordingly, the perforated disc of Romann et al. has a uniform thickness throughout, but does not include the feature of a spray-discharge region thickness that is greater than a peripheral thickness of the perforated disc. Therefore, Romann et al. does not disclose, or even suggest, the feature of *an outlet area including a spray-discharge region thickness greater than a peripheral thickness of an outlet component surrounding an outlet area.*

Further, Pontoppidan also does not disclose, or even suggest, the features that *a discharge orifice of an outlet component is inclined at an angle relative to a longitudinal axis of a valve*, and *an outlet area including a spray-discharge region thickness greater than a peripheral thickness of an outlet component surrounding an outlet area.*

Accordingly, it is respectfully submitted that the combination of Romann et al. and Pontoppidan does not disclose, or even suggest, all of the features included in claim 16. Therefore, it is respectfully submitted that the combination of Romann et al. and Pontoppidan does not render unpatentable claim 16 for at least the foregoing reasons.

Thus, as for claims 19 to 21, which depend from claim 16 and therefore include all of the features included in claim 16, it is respectfully submitted that the combination of Romann et al. and Pontoppidan does not render unpatentable these dependent claims for at least the reasons more fully set forth above.

Withdrawal of this rejection is therefore respectfully requested.

III. Rejection of Claims 22 to 25 under 35 U.S.C. § 103(a)

Claims 22 to 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Romann et al., Pontoppidan, and Fedorovich et al. (Soviet Union Published Patent Application No. 775364B). It is respectfully submitted that the combination

of Romann et al., Pontoppidan, and Fedorovich et al. does not render unpatentable the present claims for at least the following reasons.

Claims 22 to 25 ultimately depend from claim 16. As more fully set forth above, the combination of Romann et al. and Pontoppidan does not disclose, or even suggest, the features that *a discharge orifice of an outlet component is inclined at an angle relative to a longitudinal axis of a valve*, and *an outlet area including a spray-discharge region thickness greater than a peripheral thickness of an outlet component surrounding an outlet area*. Fedorovich et al. does not cure these critical deficiencies. As such, it is respectfully submitted that the combination of Romann et al., Pontoppidan, and Fedorovich et al. does not render unpatentable claims 22 to 25, which ultimately depend from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 26 to 31 under 35 U.S.C. § 103(a)

Claims 26 to 31 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Romann et al., Pontoppidan, and Egizi (U.S. Patent No. 6,205,983). It is respectfully submitted that the combination of Romann et al., Pontoppidan, and Egizi does not render unpatentable the present claims for at least the following reasons.

Claims 26 to 31 ultimately depend from claim 16. As more fully set forth above, the combination of Romann et al. and Pontoppidan does not disclose, or even suggest, the features that *a discharge orifice of an outlet component is inclined at an angle relative to a longitudinal axis of a valve*, and *an outlet area including a spray-discharge region thickness greater than a peripheral thickness of an outlet component surrounding an outlet area*. Egizi does not cure these critical deficiencies. Accordingly, it is respectfully submitted that the combination of Romann et al., Pontoppidan, and Egizi does not render unpatentable claims 26 to 31, which ultimately depend from claim 16.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

V. New Claims 32 to 38

New claims 32 to 38 have been added herein. It is respectfully submitted that claims 32 to 38 add no new matter and are fully supported by the present application, including the Substitute Specification.

It is respectfully submitted that claims 32 to 38, which ultimately depend from claim 16, are patentable over the references relied upon for at least the reason that the references relied upon do not disclose, or even suggest, all of the features included in claim 16.

VI. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

Dated: November 2, 2009

By: /Clifford A. Ulrich/
Clifford A. Ulrich (Reg. No. 42,194) for:
Gerard A. Messina (Reg. No. 35,952)

KENYON & KENYON LLP
One Broadway
New York, New York 10004
(212) 425-7200
CUSTOMER NO 26646